



## History of California Public Utility Commission Goals for Energy Efficiency

**Original Goals Decision: D. 04-09-060;** September 23, 2004

[http://docs.cpuc.ca.gov/word\\_pdf/FINAL\\_DECISION/40212.pdf](http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/40212.pdf)

The original goals decision established goals for 2004-2013 based on the Secret Surplus potential study<sup>1</sup>. In addition a Statewide Goals Study prepared by CEC staff was used identify achievable potential and establish the adopted goals.<sup>2</sup>

*“ . . . today’s adopted savings goals reflect the expectation that energy efficiency efforts in their combined service territories should be able to capture on the order of 70% of the economic potential and 90% of the maximum achievable potential for electric energy savings over the 10-year period based on the most up to date study of that potential. These efforts are projected to meet 55% to 59% of the IOUs’ incremental electric energy needs between 2004 and 2013. . . . For natural gas, our adopted savings goals are designed at this time to capture approximately 40% of the maximum achievable potential identified in the most recent studies of that potential.” p. 2-3*

In the decision the goals are identified as stretch goals, but consistent with the findings of the most currently available potential study. It also established the definition of cumulative savings goals.

*“The cumulative numbers represent the annual savings from energy efficiency program efforts up to and including that program year.”p.10*

The application of the goals for long term planning is also called out in this decision in Ordering Paragraph 6.

*“The energy savings goals adopted in this proceeding shall be reflected in the IOUs’ resource acquisition and procurement plans so that ratepayers do not procure redundant supply-side resources over the short- or long-term. . . . subsequent procurement plan cycles . . . shall incorporate the most recently-adopted energy savings goals into those filings.”p.52-53*

**Incentive Mechanism: D. 07-09-043;** September 20, 2007

[http://docs.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/73172.PDF](http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/73172.PDF)

The Shareholder Risk/Reward Incentive Mechanism for Energy Efficiency Programs was adopted in D. 07-09-043 and was superimposed upon the administrative structure adopted for the 2006-2008 energy efficiency program cycle. In this decision the “Minimum Performance Standard” (MPS) for utilities to make an earnings claim was based on partial achievement of the goals.

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<sup>1</sup> Mike Rufo and Fred Coito, Xenergy Inc., 2002. *California’s Secret Energy Surplus: The Potential for Energy Efficiency*, prepared by Xenergy Inc. for the Energy Foundation and Hewlett Foundations, October, 2002.

<sup>2</sup> Mike Messenger, California Energy Commission Staff Report. *Proposed Energy Savings Goals for Energy Efficiency Programs in California*. October 27, 2003

*“The MPS is the minimum level of savings that utilities must achieve relative to their savings goal before accruing any earnings, and is expressed as a percentage of that savings goal.” p.22*

That minimum threshold is 85% of the goals averaged across GWH, MW and Therms AND 80% of any given savings metric. This decision put added emphasis on the numeric goals adopted by the Commission by linking them to earnings.

## **Interim Opinion on Issues Relating to Future Savings Goals**

**D.07-10-032, October 18, 2007**

[http://docs.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/74107.PDF](http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/74107.PDF)

This Decision (in section 6.3.1 Cumulative Savings) clarified the definition of cumulative savings and recognized three ways the utilities could maintain the equivalent level of additive first year savings.

*“A utility's 2009-2011 portfolio then can reflect one or more options as to how to "maintain" this level of equivalent savings, such as by repeating the equivalent measure delivery and incentive again, promoting measures with much longer expected lives that will endure over many years ahead and not have to be replaced so soon, and/or achieving market transformation strategies that ensure only like-kind efficiency lamps can be purchased in 2009.”pg 80*

The utilities were directed to report in their applications for the 2009-2011 portfolio approvals the expected cumulative savings over the long term. Likewise progress toward cumulative goals are to be included in the required EM&V reports from Energy Division staff.

*“We direct the utilities to report in their applications for 2009-2011 energy efficiency portfolio approvals the expected cumulative savings (as described above) of their portfolio plans over the long-term (i.e., at least 20 years). Using 2004 as the base year, we also expect to see the cumulative effect of these savings across program cycles in their annual reporting, commencing with the 2004-2005 portfolio when we established the cumulative goals. Utilities shall include this information in the Strategic Plan and 2009-2011 portfolio plan applications. Cumulative savings as clarified herein also should be included in Commission staff's Verification and Performance Earnings Basis reports that are required under our EM&V protocols.” pg. 81-82*

## **2008 Goals Decision: D. 08-07-047; July 31, 2008**

[http://docs.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/85995.PDF](http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/85995.PDF)

D. 08-07-047, the “Decision Adopting Interim Energy Efficiency Savings Goals For 2012 Through 2020, and Defining Energy Efficiency Savings Goals for 2009 Through 2011” utilized an updated potentials study, and goals study (by Itron) to develop Total Market Gross goals for 2012-2020.

*“In a hybrid goal structure, goals are established for all energy efficiency actions taken across the market within a utility service territory, referred to as Total Market Gross (TMG), and for the savings associated specifically with each utility energy efficiency portfolio (utility program-specific).”Appendix p 1. D. 08-07-047*

The rationale for this goals paradigm was stated in that decision.

*“Energy Division believes a hybrid goal structure (which incorporates both a total market gross goals and a utility program-specific goal) which measures all savings achievements within IOU service territories begins to solve the crucial interagency need for a metric appropriate to load forecasts, associated emission reduction baselines, and economically efficient procurement plans.” p. 13*

The need for more evaluation and measurement frameworks to measure these savings was also recognized in this decision.

*“Such a definition must be accompanied by a Commission commitment to develop any significant missing evaluation, measurement & verification (EM&V) protocols for attributing savings to utility programs.” p. 13*

*“Energy Division believes a hybrid goal structure employing “expansive net” as the metric for which IOU program efficacy is measured also encourages utilities to innovate their program delivery through non-traditional channels. The EM&V profession refers to these additional EE effects variously as “participant spillover,” “market effects,” “naturally occurring” savings.” p. 14*

More details regarding this proposal were presented in a Staff White Paper (May 12, 2008.) entitled “2012-2020 Energy Efficiency Goal Setting: Technical and Policy Issues.”

Goals for 2008-2020 were proposed, and cited in D. 08-07-047, but were adopted on an interim basis (OP1). They were adopted for use by the California Air Resources Board in its Assembly Bill 32 planning process and again cited to be used in the Commission’s long-term procurement planning process (OP3).

*“3. Energy utilities shall use one hundred percent of the interim Total Market Gross energy savings goals for 2012 through 2020 in future Long-Term Procurement Planning proceedings, until superseded by permanent goals.”*

This decision also characterized the existing goals for the 2009-2011 energy efficiency program cycle as ‘gross’ to better align them with the 2002 Secret Surplus study. However, the numeric values of the goals did not change. (OP4)

A preliminary target for updating the goals was also ordered in this decision.

*“5. The 2012 through 2020 interim goals shall be updated and utility portfolio goals shall be established after the 2006 -2008 Impact Evaluation studies are completed (expected to be March 2010) and the inquiry shall be completed by October of 2010. The assigned Commissioner and/or Administrative Law Judge may adjust the schedule for updating and establishing new energy savings goals for 2012 through 2020.”*

**May 2009 decision: D.09-05-037; May 21, 2009**

[http://docs.cpuc.ca.gov/WORD\\_PDF/FINAL\\_DECISION/101543.PDF](http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/101543.PDF)

This decision redefined cumulative savings for the 2009-2012 program cycle to begin in 2006 rather than 2004. It removed the savings for the 2004-2005 period as part of the cumulative goals in the 2009-2011 program period, subsequently removing the obligation of the utilities to make up any shortfall in savings in future cycles. The reasoning for removing 2004-2005 was because the evaluations in this period were not guided by the CPUC and the standard protocols were not in effect.

This decision granted SDG&E and PG&E (dual fuel utilities) reductions in their therm goals of 22% and 26% respectively. This was done to align expectations with the DEER 2008 application of interactive effects primarily for prescriptive lighting measures.

Energy Division was directed to do further study on measure decay in preparation for the next program cycle (2012-2015). (OP 2)

*“Energy Division shall study specific assumptions around decay in advance of the 2012-2015 energy efficiency portfolio applications, with opportunities for interested parties and persons to provide input on and comment on the Energy Division recommendations.”*

**September 2009 Decision: D. 09-09-047; September 24, 2009**

<http://docs.cpuc.ca.gov/PUBLISHED/GRAPHICS/107829.PDF>

D. 09-09-047 granted SDG&E, PG&E and SCE all 5% and 1% decrement to their annual goals for kWh and kW respectively. The purpose was to align expectations for meeting the goals with the requirement to apply the DEER 2008 ex-ante assumptions to 2006-2008 and 2009-2012 claims.

SDG&E also had a long standing anomaly in their goals compared to the other utilities; they had been required to achieve a larger portion of electric potential than the other utilities. The correction in the decision resulted in a 25% reduction on their kWh and kW annual goals. This was applied before the 5% and 1% corrections were made. This correction was also applied retroactively to the 2006-2008 period to correct for cumulative savings shortfall.

This decision also adopted the D. 04-09-060 goal for 2012 (with the subsequent adjustments); not the D. 08-07-047 goal for 2012.

This decision required that the utilities should make up 50% of the savings decay as measures expire, but also for further study.

*“. . . until EM&V results inform better metrics, utilities may apply a conservative deemed assumption that 50% of savings persist following the expiration of a given measure’s life. This reflects our expectation that our energy efficiency program efforts are in fact resulting in market transformation, changing consumption habits and preferences, while acknowledging that measure uptake in the absence of program support may not be universal.*

*Given the exclusion of 2004-2005 from cumulative savings calculations in D.09-05-037, measure life drop off is expected to have a relatively minor effect on utility goal achievement for the current cycle, hence the appropriateness of a deemed assumption. However, we understand that the scope of this issue will grow over time as cumulative savings obligations increase and a larger swath of measure lives expire. Therefore, this is an important analytical issue critical to our understanding of savings persistence over time, and demands greater attention in our EM&V work. D.09-05-037 directed Energy Division to study specific assumptions around efficiency measure savings “decay” in advance of the 2012-2014 (now 2013-2015) portfolio applications. We intend to take this up for further examination in R.06-04-010, or its successor rulemaking.” p 38-39*

### Current Status of Goals

The following graphics illustrate the affect on the CPUC adopted goals as a result of decisions since D.04-09-060. Actual values are provided in the Decisions.

Figure 1. Changes to GWH Savings Goals [Projection] per decision

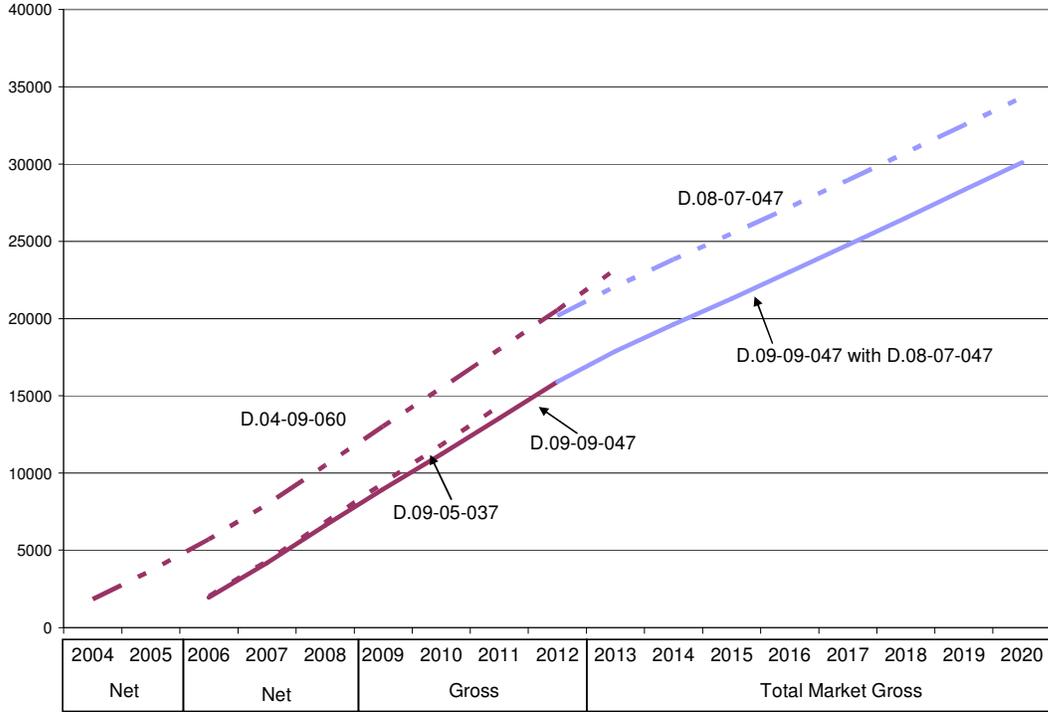
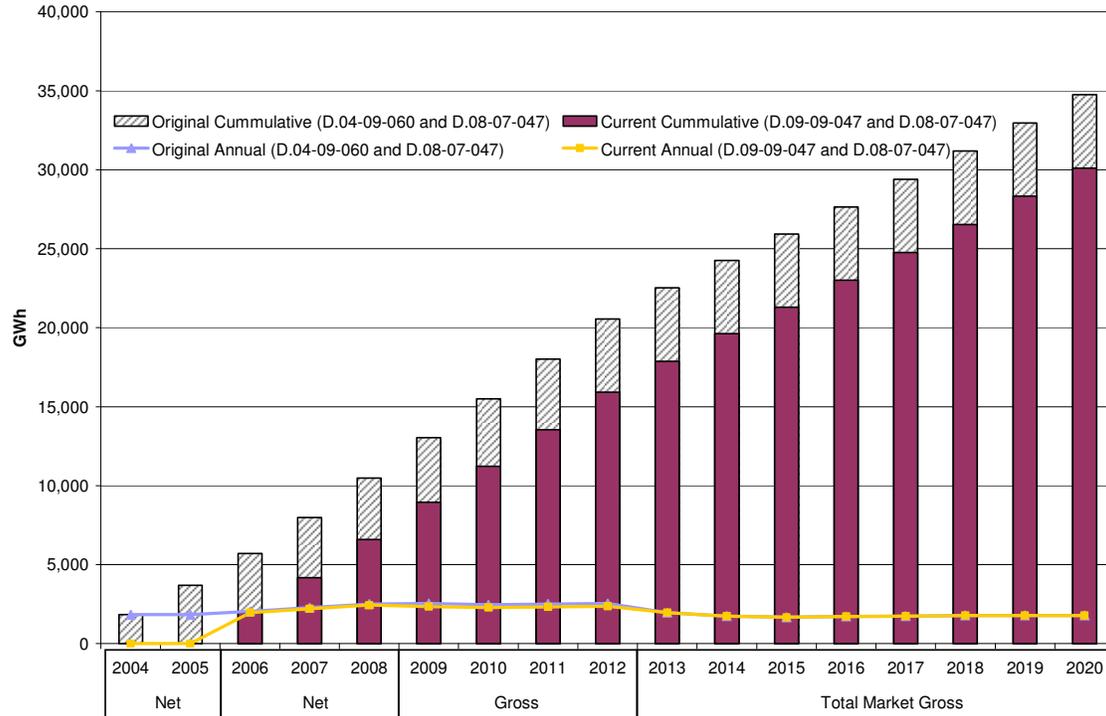
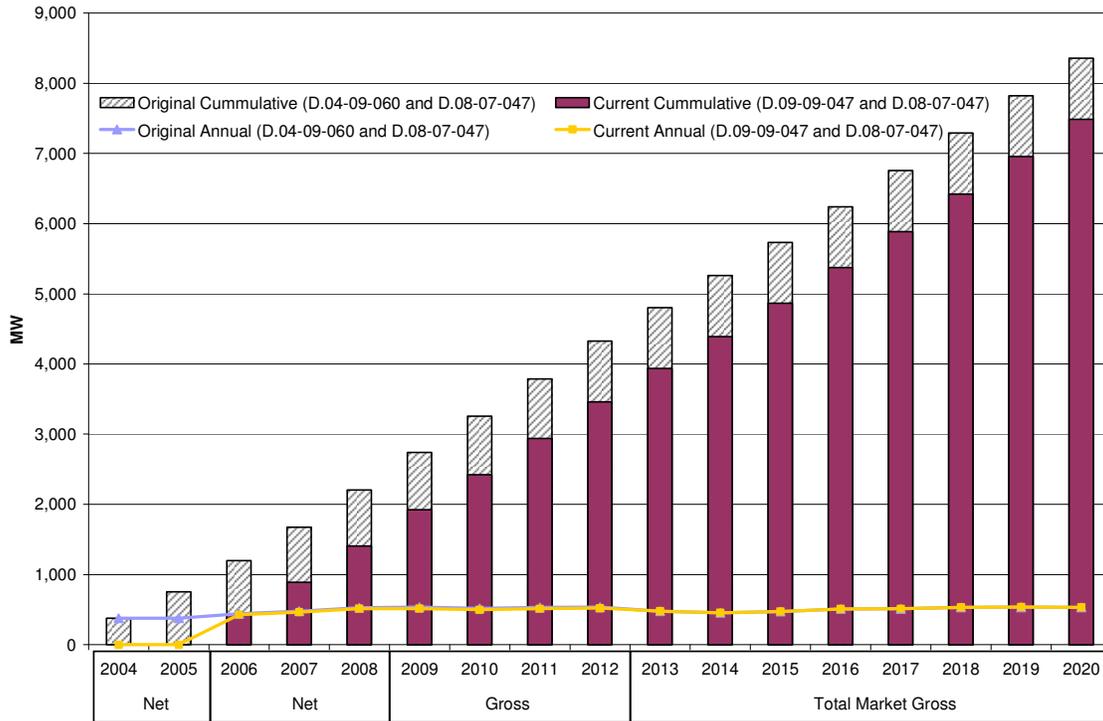


Figure 2. GWH Savings Goals [Projection]

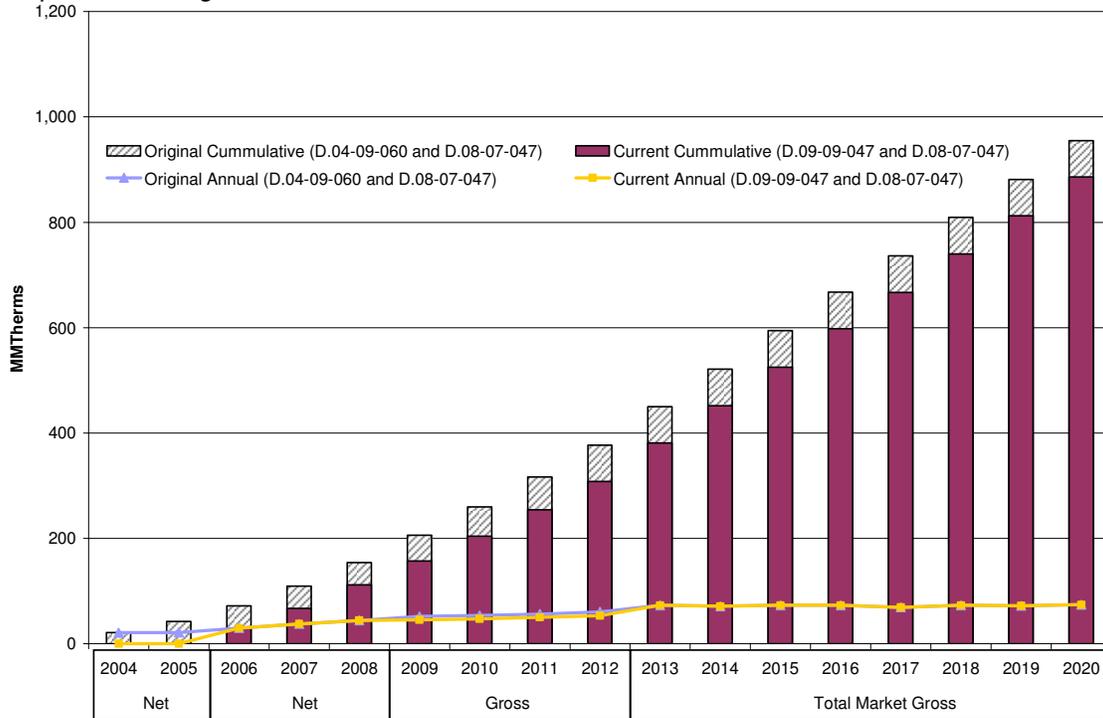
Comparison of Original D. 04-09-060 to Current D. 09-09-047 [aggregate effects]



**Figure 3. MW Savings Goals [Projection]**  
*Comparison of Original D. 04-09-060 to Current D. 09-09-047 [aggregate effects]*



**Figure 4. Therm Savings Goals [Projection]**  
*Comparison of Original D. 04-09-060 to Current D. 09-09-047*



### **Lifecycle Logged Savings by Utility by Fuel Type**

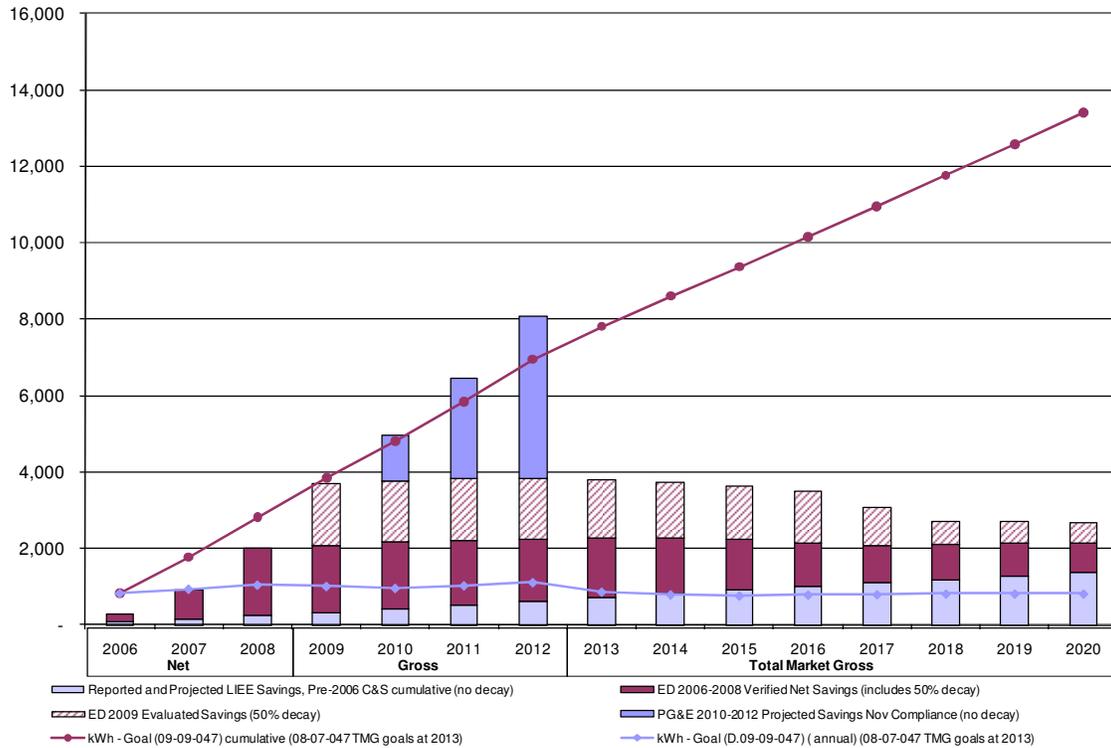
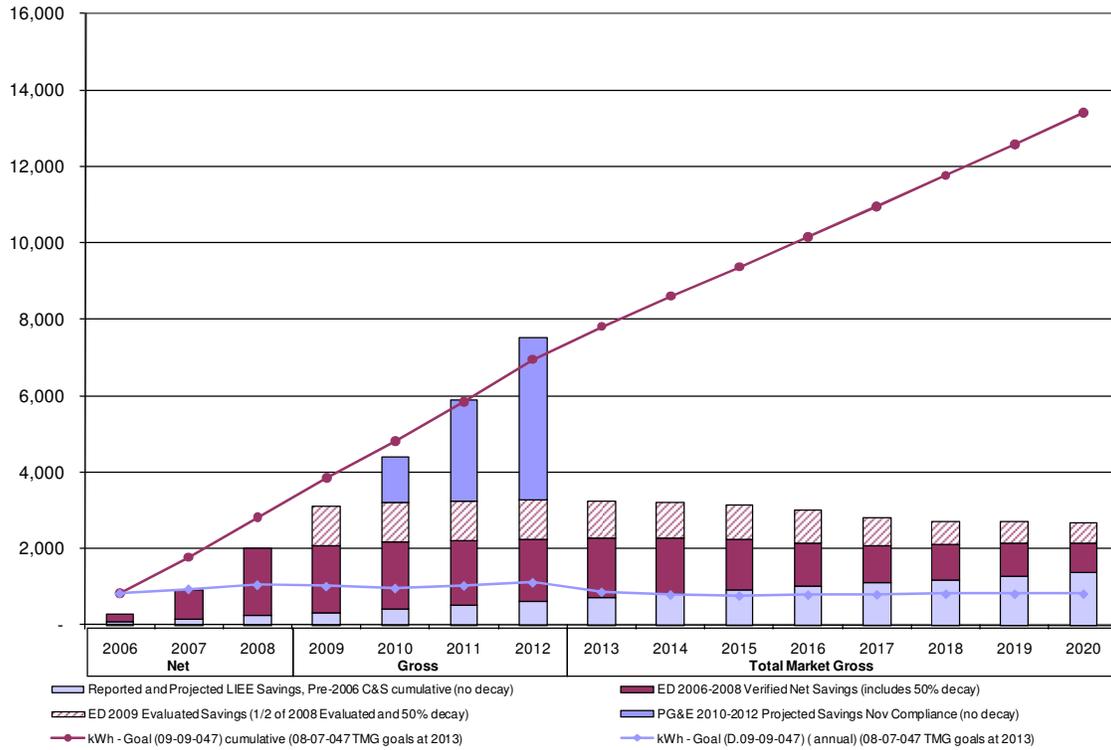
The following figures illustrate the *2006-2008 evaluated net* savings the Commission has reported for the 2006-2008 program period including 50 percent of the decay projected for these measures expiring over time. The savings in the 2010-2012 period are *projected* based on their July 2<sup>nd</sup> 2009 filings.

The final 2006-2008 evaluated energy savings can be found at the following link:  
<http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/EM+and+V/2006-2008+Energy+Efficiency+Evaluation+Report.htm>

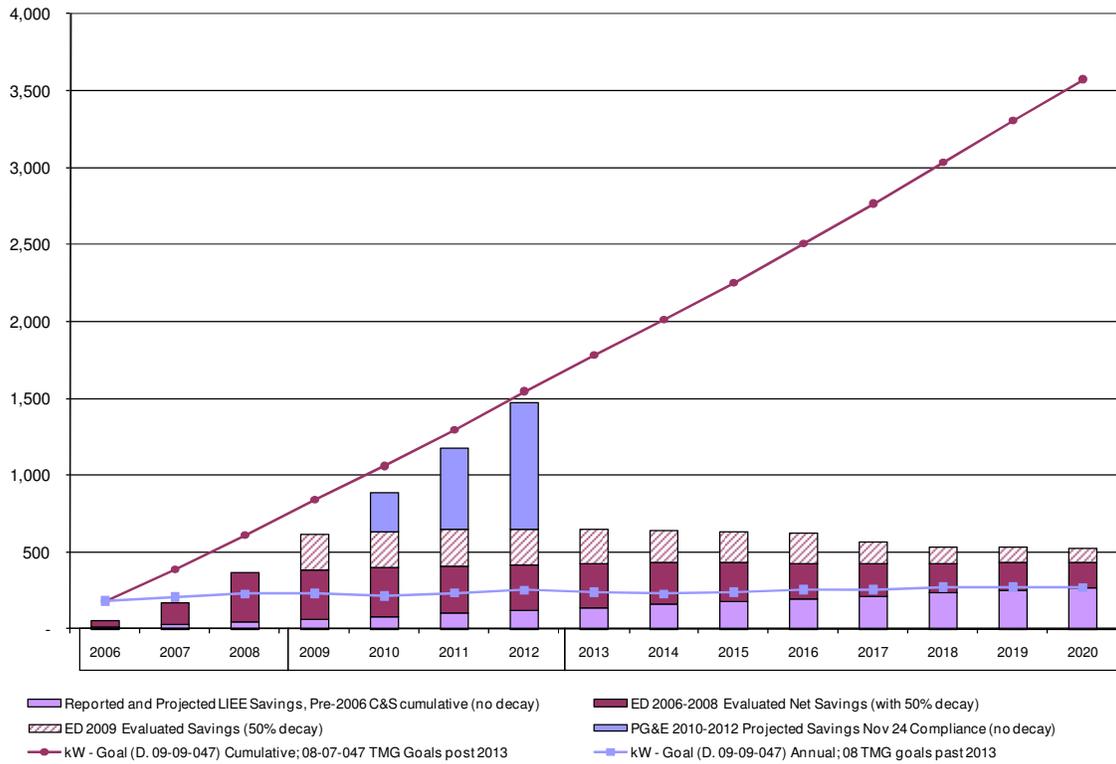
The savings for 2009 are based on the FINAL 2009 Energy Efficiency Evaluation Report; which applied 2006-2008 evaluation results to the 2009 utility claims.

No assumptions about the decay or lifecycle savings for the 2010-2012 proposed programs are included in these figures; and pre-2005 C&S and Low Income projections past 2009 assume continued savings at the same pace with no decay.

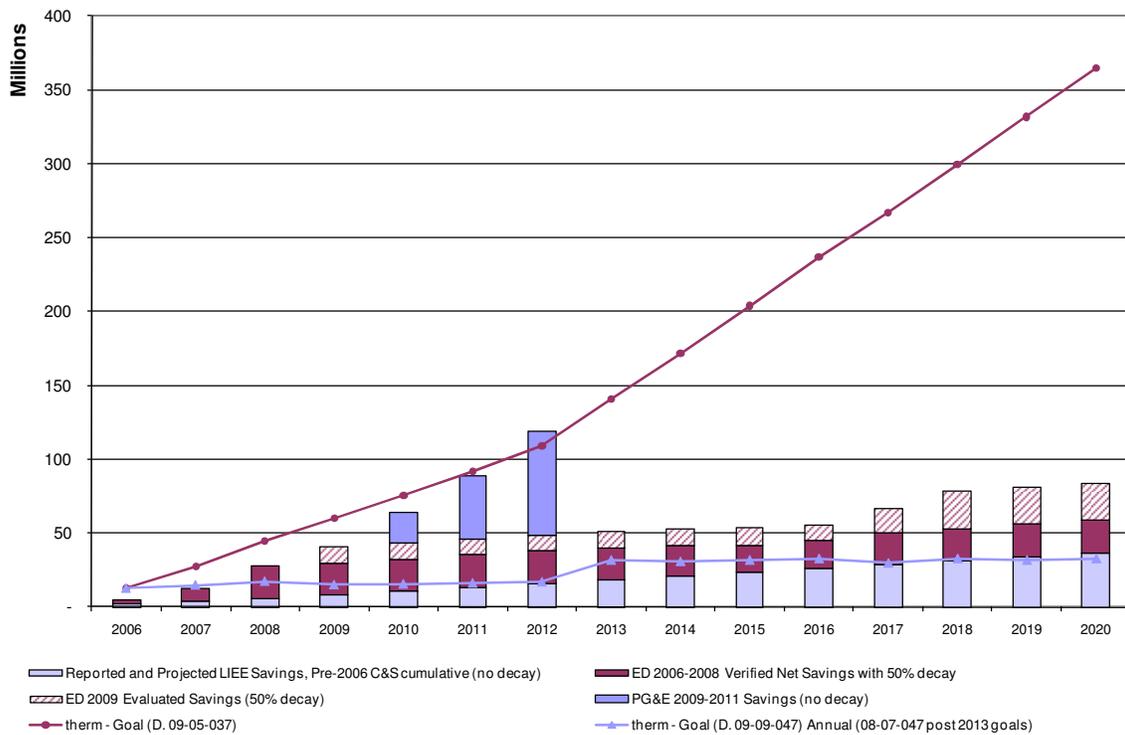
# PG&E Recorded and Projected Savings v. Commission Adopted Goals GWh



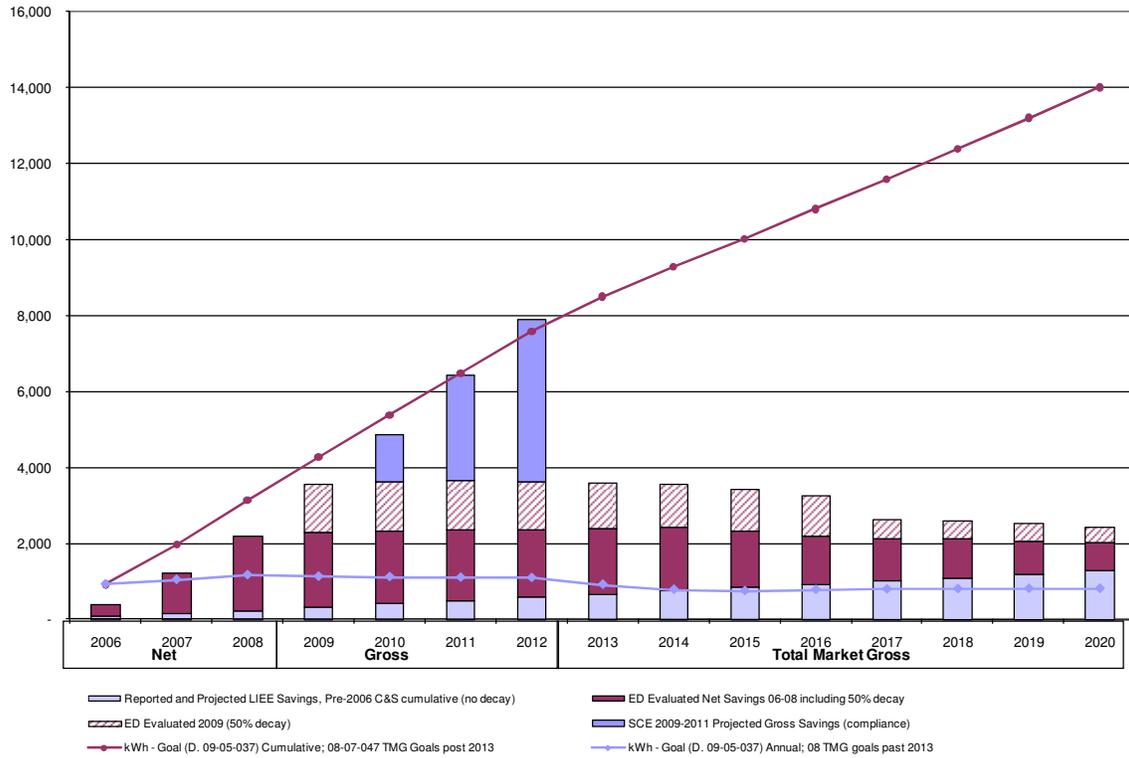
## PG&E Recorded and Projected Savings v. Commission Adopted Goals MW



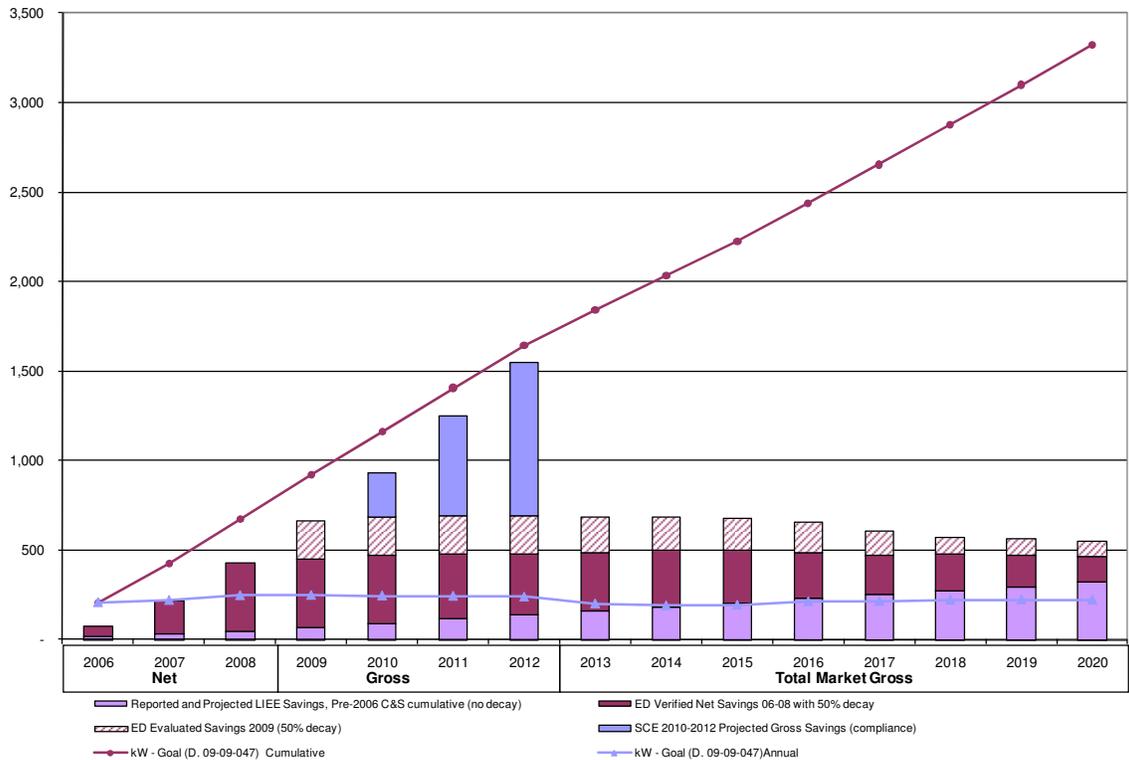
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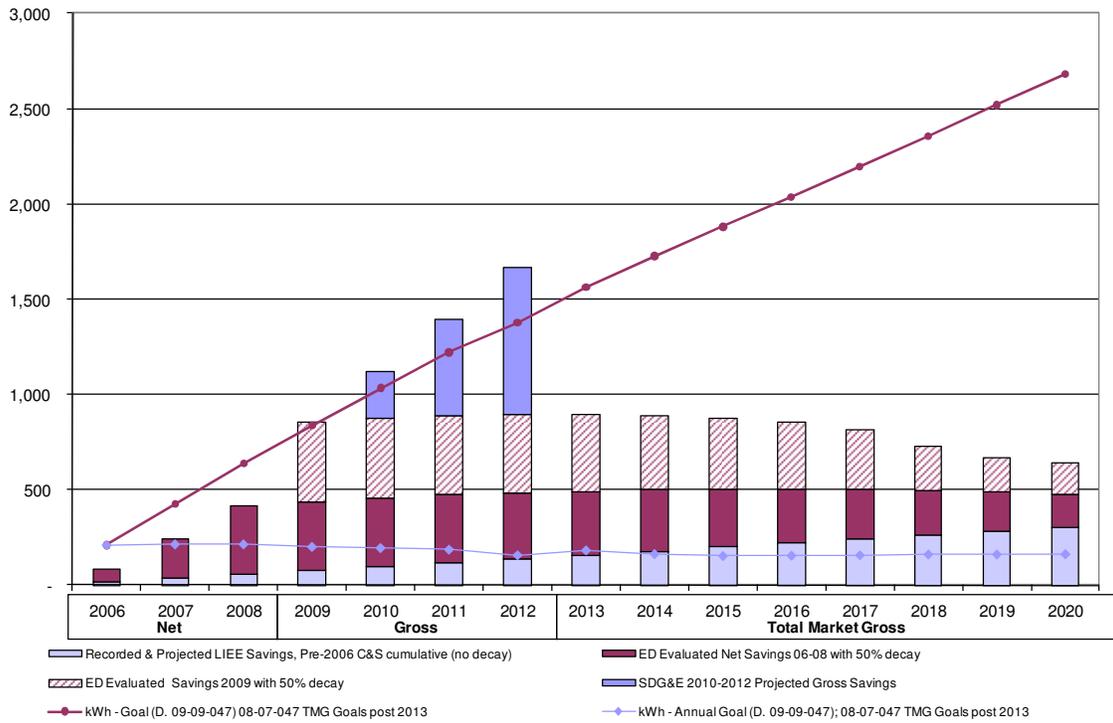
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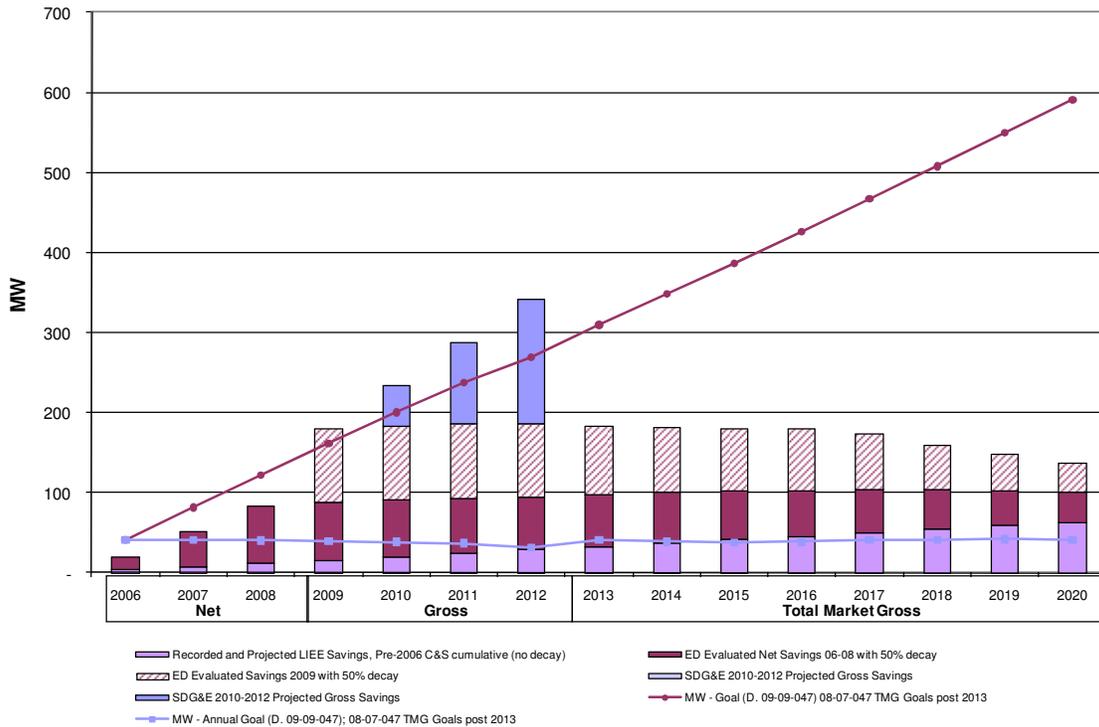
## SCE Recorded and Projected Savings v. Commission Adopted Goals MW



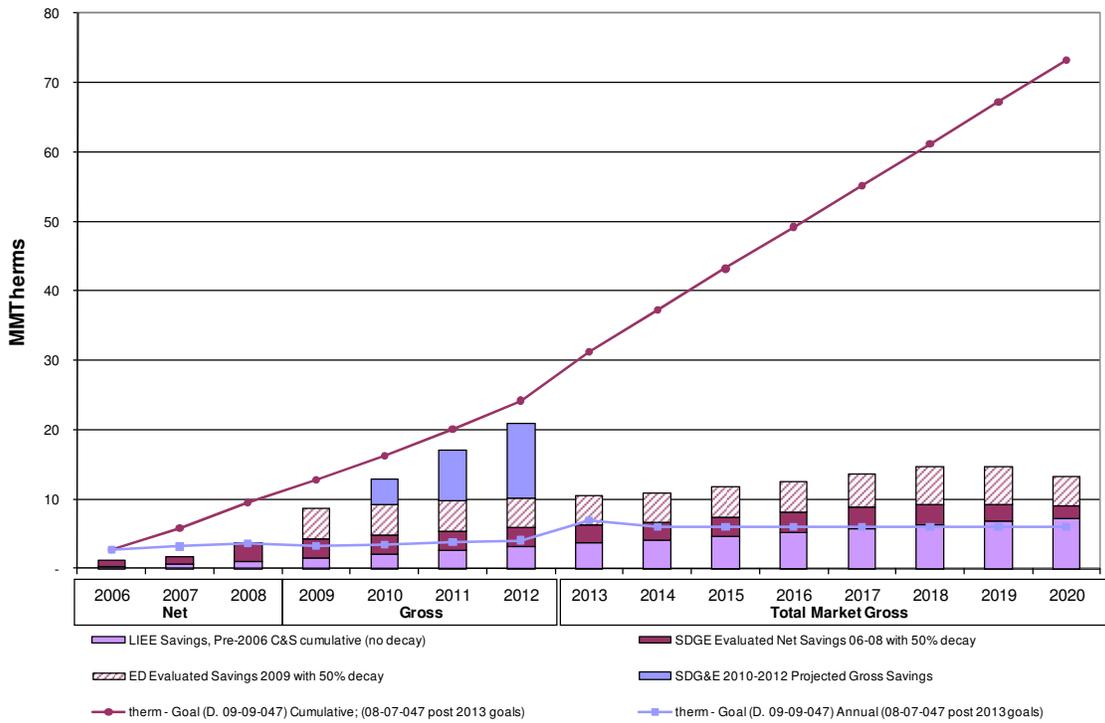
## SDG&E Recorded and Projected Savings v. Commission Adopted Goals GWH



## SDG&E Recorded and Projected Savings v. Commission Adopted Goals MW



## SDG&E Recorded and Projected Savings v. Commission Adopted Goals MMTherms



## SCG Recorded and Projected Savings v. Commission Adopted Goals MMTherms

